

PAPERS READ.

REVISION OF THE GENUS *LAMPRIMA* OF LATREILLE,  
WITH DESCRIPTIONS OF NEW SPECIES.

BY WILLIAM MACLEAY, F.L.S., &c.

Mr. C. French of the Botanical Museum of Melbourne, sent me very recently a very beautiful Pecticorn Insect which he had received from North Australia. The section of the Lucanidæ to which this fine Insect belongs,—the Subfamily Lamprimidæ—is almost peculiar to the Australian Region as defined by Wallace, indeed the only exception to its entirely Australian character, is in the case of the genus *Streptocerus*, which is Chilian, and is not by any means the only instance in which affinities have been found between the Fauna of South America and Australia.

The chief characters which distinguish the Lamprimidæ from the other Sub-families of the Lucanidæ, are the narrow prosternum, only showing between the fore legs in a narrow keel, and the large and exerted mandibles of the males, which are however, never so largely produced as in the kindred American genus *Chasiognathus*.

With the exception of *Streptocerus*—the only foreign genus, the genera of the Sub-family, are four, viz., *Dendroblox*, represented by one species from New Zealand. *Rhyssonotus*, consisting of three species,—*nebulosus* Kirby, found in New South Wales and

Queensland,—*jugularis* Westw. from Victoria, and *parallelus* Deyr. from Queensland. *Cacostoma* one species,—*squamosus* Newm., from Queensland, and *Lamprima* a genus rather numerously represented in all parts of Australia.

It is to this last genus that the superb insect sent me by Mr. French belongs, and before proceeding to describe and name it and some other species of the genus in my collection, I shall take the opportunity of making some general remarks on the present state of our knowledge of all the species comprised in the genus. The genus itself, remarkable for the metallic brilliancy of its colouring, is sufficiently well defined, but the species are most difficult of definition, and much confusion has consequently arisen in their identification and nomenclature. I shall therefore briefly notice all the species hitherto described, not to redescribe them, but to point out the characters which seem to me most suitable and available for noting specific differences.

#### LAMPRIMA ÆNEA. Fab.

This species was first described by Fabricius in 1801 in his "Systema Eleutheratorum" under the name of *Lethrus aeneus*. A few years afterwards it was described by Schreibers in the 6th Volume of the Transactions of the Linnean Society of London, under the name of *Lucanus aeneus*; and in 1807, Latreille in his "Genera Crustaceorum et Insectorum" made for its reception the genus *Lamprima*. The species has also been described in the writings of W. S. Macleay, Burmeister and Reiche. In Gemminger and Harrolds "Catalogus Coleopterorum" *Lamprima cuprea* Latreilla, with the habitat of Sydney, is given as a synonym of the female of *L. aenea* and *Lamprima viridis* Erichson from Tasmania is placed as a variety of *L. aenea*.

I believe this to be a mistake. I am confident that *L. aenea* is an inhabitant of Norfolk Island only, and I have good reason to believe that Latreille's *L. cuprea* is the female of *L. aurata*, Latr., and that Erichson's *L. viridis* is another species or a variety of one of the other species. *L. aenea* can be readily distinguished from all the other known species by its rugose sculpture, dense puncturation, very slightly angled thorax, short mandibles, and the acute, narrow, terminal spur of the fore tibiae in the male. No reliable distinction can be derived from the colour; the prevailing one is brilliant golden-green, but coppery-green, dark bronze, and even blue are occasionally seen. The female is, as in all of this genus, more deeply punctured than the male.

LAMPYRINA AURATA. Latreille.

Nouv. Dict. Hist. Nat., XVII., p. 278.

This species comes next to *L. aenea* in priority of description. It is well described by W. S. Macleay in the "Horæ Entomologicae." It seems to have been taken for *L. aenea* by Donovan, Guerin and Castelnau, and is no doubt the *L. fulgida* of Boisduval, Burmeister, and Dupont. The female is the *L. cuprea* Latreille. The exact habitat of this species is not known to me. I find in the old Macleay collection two males and three females but without locality, while among all the more recent collections of Coleoptera which I have had from all parts of the country, I have only one specimen, and that is labelled "Darling River."

In general appearance the resemblance to *L. Latreillei* is very great. Both are of a brilliant golden-green, with a coppery effulgence on the head, but as a rule the colour is more golden and less green than in *Latreillei*, but the true specific differences between the two are to be found in the more punctured thorax, and slightly rugose elytra, the short, obtuse pointed mesosternum, and the less numerous and regularly dentated fore tibiae. The tibial spur of the male is very broadly scuriform or almost fan shaped, thereby differing much from *L. aenea*.

The females are generally of a reddish copper colour, and densely punctured.

## LAMPYRUS LATREILLEI. Macleay.

This is the best known and most common species in New South Wales. It was first described by W. S. Macleay in the year 1819 in the "Horæ Entomologicæ." It has been described also by Burmeister and Erichson. In Gemminger and Harrolds Catalogue, *L. aenea* of Boisduval, *L. amplipollis* of Thomson, var. *L. coerulea* of Donovan, and *L. pygmaea*, of W. S. Macleay are placed as synonyms of this species, and not having seen the types, I cannot dispute the statement. It is altogether a smoother and more sericeous insect than *L. aurata*, and differs besides in the more densely punctate breast, the highly keeled prosternum, and the prominent and acutely angled mesosternal point. The females of this and the preceding species are much alike, but they show the same mesosternal differences as the other sex. The species is found in Victoria and Queensland as well as New South Wales. I have lately received from the Herbert River District of Queensland some specimens of a *Lampyrus*, which I felt strongly tempted to look upon as a species, and in fact I had at one time described it under the name of *L. sericea*. It differs a little from *L. Latreillei* in the armature of the fore tibiae, the smaller size, the duller coloration, and the slightly less acute mesosternal point, but I do not think that, for the present at all events, it can be considered as more than a mere variety of *L. Latreillei*, and as such I have named it in my cabinet.

These three species were all that were known for many years, and they have been confounded one with another in the most inexplicable way, indeed Reiche asserts, in the "Revue Entomologique" so late as the year 1841, his belief that *L. aurata* and *Latreillei* are mere varieties of *L. aenea*. It is of course evident that M. Reiche had never seen true specimens of these insects when he made such an assertion.

## LAMPYRUS MICARDI. Reiche.

This is the next species in seniority. It was described by Reiche in 1841 in the *Revue Zoologique* of that year. Gemminger and

Harrold in their Catalogue make *L. varians* of Germar a synonym of this species, which is certainly a mistake. It is smaller than *L. Latreillei*, and of a more coppery colour, the mesosternal point is blunt, and the spur on the fore tibiæ of the male is spiniform and narrow.

The habitat is West Australia.

#### LAMPYRA VARIANS. Germar.

This species seems to have been described by Germar and Burmeister in the same year, by the one in the Linn. Ent. III., p. 895, and by the other in Burmeister's *Lamellicornia*, Handbuk, Band 5, p. 415 and 417. It is, I think, without doubt, identical with the *L. cultridens* of Burm., a species which has been for some time, on the authority of Major Parry, placed as a synonym of *L. Micardi*. The spur on the fore tibiæ of the male in *L. varians* is very much narrower than in most of the species, but much broader than in *L. Micardi*, and in this respect it answers to Burmeister's description of *L. cultridens*, which is "*calcare maris antico angusto trigono, sulfalciiformi*," while of *L. Micardi* he says "*calcare maris antico angustissimo, lacvi*." It is the most common species in South Australia and is also found in West Australia.

#### LAMPYRA SPLENDENS. Erichs.

Erichson described this species in 1842, in a note to his paper on the Insects of Tasmania, published in the *Archiv. fur Naturg.* His description is very poor, and is taken from a female specimen. No locality is given, but I have specimens of what I have no doubt is this insect from the Clarence River in New South Wales, and from Rockhampton in Queensland.

It is, I think, a good species. It is altogether of smaller dimensions than *L. Latreillei*. The male seems to be invariably of a very brilliant golden green, with the head of a fiery copper, and the maxillæ, palpi, antennæ, tarsi and tibial spur, picous. The puncturation of the thorax and elytra resembles that of *L. Latreillei*. The mandibles have on the upper surface a very large

indentation, and terminate in three teeth, the extreme two small and close together; a deep notch and tooth on the inner surface above the middle. The prosternum terminates in a short pointed triangle between the fore legs, and does not show a long narrow keel like *L. Latreillei*; the triangular space on the breast on each side is small, sunken, and strongly punctate. The mesosternal point is rectangular and clothed in front with yellowish pile. The whole under surface is densely punctate and sparingly pilose. The anterior tibiæ are armed externally with five teeth, the uppermost reaching the middle; the spur on the inner apex is broadly securiform, the middle and hind tibiæ are slender and unarmed. The female is generally of a coppery hue, very brilliant, but densely punctured all over; the tibiæ are all strongly armed. Major Parry makes it a synonym of *L. aurata*, but if I am right in the recognition of the species it is manifestly distinct.

LAMPRIMA RUTILANS. Erichs.

Archiv. fur Naturg, 1842, I., p. 170.

Erichson described this species in his Tasmanian Insects (loc. cit), but it is also a common species in Victoria, and in some parts of New South Wales. It is generally of a tarnished golden hue, is more punctate than *L. Latreillei*, with mandibles more broadly truncate and recurved at the apex, and the mesosternal point sharply rectangular. Major Parry thinks this is also the same as *L. aurata*. I believe it to be a good species.

LAMPRIMA KREFTII. Macleay.

Proc. Linn. Soc., N.S. Wales, Vol. IV., p. 173.

I described this species in 1871, in my paper on "The Insects of Gayndah" (loc. cit.) The only specimen known—a male—is in the Australian Museum. In addition to the distinctive characters mentioned by me in the original description, I would add the following—the mesosternal point acutangular as in *L. Latreillei*, and the teeth on the outer side of the fore tibiæ small and irregular above and on the middle.

Two other species of *Lamprima* are admitted as species in the "Catalogus Coleopterorum," *L. nigricollis* and *L. sumptuosa*, both described by the Rev. F. W. Hope in the year 1845, in a list of Lucanidæ published by him in London, in pamphlet form. The Rev. gentleman seems in that publication to have bestowed names of his own on about all the species of *Lamprima* known, thus we find by Gemminger and Harrold's Catalogue that he calls *L. ænea*—*subrugosa*, *L. aurata*—*Schreibersii*, *L. Lotreillei*—*Tasmania*, and *L. Micardi*—*purpurascens*. Of course this pamphlet is now out of print and cannot be referred to, even if it were worth the trouble. But this fact evinces the folly of publishing in a separate form, instead of in the transactions of some established Scientific Society, any paper containing original matter, or matter useful for future reference. Catalogues of Museums, public or private, or hand lists of collections of any kind, are necessarily ephemeral productions, and have no chance of a lengthened existence, unless as a part of a Society's proceedings.

The two species mentioned have, after close inspection of the types, been ascertained by Major Parry, to be both mere colour varieties of *L. Micardi*, Reiche.

I shall now proceed to describe some hitherto unnoticed species of *Lamprima*, beginning with the superb insect sent me by Mr. French, the description of which is in truth the original incentive for the present paper.

Mr. French has specially asked me to dedicate the species to the illustrious Botanist, Baron Sir Ferd. von Mueller, and it gives me much pleasure to comply with the request.

#### LAMPRIMA MUELLERI. n. sp.

*Female.* Golden-green, nitid. The head small, transverse, very nitid, excavated and deeply punctured in front between the eyes; the clypeus and labrum vertical, elongate, of a blackish colour, and strongly punctate; the mandibles also black, longer than the head, strong, with a broad, punctured, slightly excavated space above and punctate beneath, with a strong prominent horn

projecting downwards on each side of the labrum. The palpi are normal. The maxillæ and labium are enveloped in yellow hair, but do not appear to be at all corneous. The mentum is of a metallic green, strongly punctate, and of a transverse triangular form. The thorax is quadrangular, a little broader than the length, a little narrower at the apex than at the base, bisinuate on both, a rounded angular dilatation with a depression on the sides behind the middle, the entire lateral margin crenulated with about fifteen short, strong, blunt teeth, and a number of small dense punctures in the median line. The colour of the thorax is of a deader metallic hue than the rest of the body. The scutellum is of a rounded triangular form, with a few small punctures. The elytra are more than twice the length of the thorax, about the width, at the base, of the thorax and narrowing a little to the apex; the colour is very brilliant, the greenish-gold of the sides changing into a coppery hue in the middle. Each elytron has a very distinct sub-apical callus, and is marked by a number of large shallow variolose punctures, disposed thinly in irregular rows, with densely punctate recurved margins. The under surface is of the same colour and brilliancy as the upper. The prosternum shows in a narrow keel between the fore legs, the mesosternum is shortly pointed and concave on its anterior face; these with the metasternum and sides of the abdominal segments are clothed with a yellowish pubescence. The thighs are of the colour of the body, and of moderate size; the tibiæ and tarsi are black or piceous-black; the fore tibiæ are broad and armed externally with seven teeth; the other tibiæ have two teeth near the middle on the outer side; the tarsi are rather shorter than the tibiæ.

Length, 17 lines.

*Hab.*—North Australia.

This large and beautiful species might well form the type of a new genus; the triangular mentum, strongly crenulated thorax; and entirely peculiar puncturation of the elytra, seem to constitute almost generic characters. But in the absence of a male specimen, which may probably prove to be still more peculiar, it would be premature to attempt to make a genus for its reception.



## LAMPYRA INSULARIS. n. sp.

*Male.* Brilliant golden green all over, excepting the antennæ, palpi and tarsi which are piceous. The mandibles are nearly straight above, and terminate in a slightly truncate point, the tooth and notch of the under side are strong. The head is strongly punctate. The thorax is of the usual form, and finely but not densely punctured. The scutellum is smooth. The elytra are finely but rather thinly punctured, are marked with some light striæ near the suture and are slightly rugose. The mesosternal process is very strong and prominent.

The under surface is more densely punctured than the upper, and is clothed with yellowish pile. The fore tibiæ are armed externally with six teeth not reaching above the middle, the spur on the inner apex is large and fan-shaped.

The female only differs from the male in having the mandibles *very* short, the puncturation of the body much stronger, the colour a dark copper-green, and in having ten teeth or serrations on the outer edge of the fore tibiæ.

Length, ♂ 12 lines, ♀ 9 lines.

*Hab.*—Lord Howe Island.

## LAMPYRA NIGRIPENNIS. n. sp.

*Male.* The thorax, the legs except the tarsi, the scutellum, and the under surface are metallic bluish-green; the head coppery, and the elytra blackish-brown and without metallic lustre. The mandibles are deeply emarginate on the upper surface, with a strong tooth immediately in front of the excavation; they are truncate or nearly so at the apex. The triangular depression on the head is deep, punctured, the punctures becoming coarser on the lateral dilatations. The scutellum is smooth, rounded and transverse.

The elytra are quite smooth. The prosternal keel is distinct; the mesosternal point is strong, prominent, and rectangular. The fore tibiæ are armed externally with six strong obtuse teeth, the inner terminal spur is broadly securiform.

Length, 14 lines.

*Hab.* Australia.

This is an unique insect in the old Macleayan collection, labelled "New Holland," and with no other indication of locality.

LAMPRIMA VIOLACEA. n. sp.

*Male.* Thorax and elytra deep violet-blue with a greenish tinge on the margins, the first of these is very finely and distantly punctured, the other has a few obsoletely punctured striæ near the suture. The scutellum is of a rounded triangular form, with a few indistinct punctures on the base. The under surface and legs are of a very brilliant golden-green. The antennæ, palpi and tarsi are piceous. The mandibles are long and slender, slightly diverging, not or only a little bearded on the inside, and terminate in two teeth or angles with a slight emargination between them. The triangular excavation on the head, which is of a dull bronze colour, is more finely punctured than is usual in the genus. The spur of the fore tibiæ is strongly securiform; the teeth on the outer side are five in number, and do not reach above the middle. The mesosternum is strongly pointed, the anterior face is quite vertical.

The female differs from the male in being larger, of a greenish colour, and much more punctate.

Length (mand. incl.) ♂ 10 lines ♀ 10 lines.

A male and female of this remarkable species were taken at Botany Bay, many years ago by Mr. Masters, and are now in that gentleman's collection.

I have never seen another specimen anywhere.

LAMPRINA MINIMA. n. sp.

*Male.* The upper surface is of a rather dull bronze, the under surface and legs are of a pale piceous red. The mandibles are very short (shorter than the head) stout, scarcely notched and toothed below and bidentate (almost truncate) above.

The head which has a copper-red tinge, is very strongly punctate, its triangular depression is very shallow. The thorax is distinctly but not densely punctate, and has a round depression in the middle

on each side of the median line, this line is visible only near the base. The scutellum is transversely rounded, with a small depression near the apex. The elytra are very faintly punctate and striate, and leave the pygidium exposed. The fore tibiæ are armed externally with five teeth, the spur on the inner apex is only slightly securiform, being very much narrower than in many of the genus; the mesosternal point is obtuse and not prominent.

Length, 6 lines.

One specimen (a male) is all I have ever seen of this species. I received it some years ago in a collection from South Australia.

In the *Annales Musco civico* of Genoa for the year 1875, p. 999, Dr. Gestro describes under the name of *Neolamprina* a genus differing only from *Lamprina* in the very remarkable form of the mandibles of the male. The species on which he forms the genus is from Arfak on the North-west part of New Guinea and he names it *Ncolamprina Adolphinae*. I have lately received from the Herbert District, Queensland, a specimen of the genus, and I think a distinct species.

NEOLAMPRIINA MANDIBULARIS. n. sp.

*Male.* In colour and form of body much like *Lamprina aurata*. The thorax very thinly and minutely punctured, the elytra smooth. The mandibles are very long, (more than half the length of the insect) slightly narrower in the middle than at the base, widening again a little at the apex, which is tridentate, without notch or tooth on the upper surface, curving upwards from the middle, densely bearded on the inner surface, and serrated on the lower edge from a little below the middle to the apex; the teeth forming the serration being regular, truncate—resembling the cogs of a wheel—and eight in number. The mesosternum is acutely pointed. The fore tibiæ are strongly six-toothed on the outer side, the inner spur is strongly securiform.

Length, without mandibles 10 lines.

*Hab.*—Herbert River District, Queensland.

Judging from the figure accompanying Dr. Gestro's description of the New Guinea species, the serrations of the mandibles commence near their base and are more numerous than in the present species. I have a female from the same locality but whether it is the female of this species or of a *Lamprima* it is impossible to say, it would do for either. It is small—about 7 lines in length—has very short mandibles, and is entirely of a bluish-black colour, densely punctate and rugose. The under surface is brassy. The mesosternal point is strong and rather acute.